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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,201	08/10/2001	Richard L. Baer	10010802-1	3806

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EXAMINER

GENCO, BRIAN C

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/927,201	Applicant(s) BAER, RICHARD L.	
	Examiner Brian C. Genco	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,8,10-12,16-18,20-22 and 26 is/are rejected.
- 7) ☒ Claim(s) 3-6,9,13-15,19 and 23-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/01, 1/04</u> . | 6) <input type="checkbox"/> Other: _____ |

Allowable Subject Matter

Claims 3-6, 9, 13-15, 19, and 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 7, 8, 11, 17, 18, 20, 21, 22, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by (USPN 6,208,433 to Iwakawa et al.).

In regards to claim 1 Iwakawa discloses a method for removing image artifacts from an image of a scene illuminated by a light source, said image represented by image data, the method comprising:

determining a flicker function (e.g., the measurement of the ambient lighting conditions through prism 2 on area 12 of the image pick-up device 1 is a determination of the flicker function $V_{ref}(y)$; column 3, lines 23-28 and 42-47; column 5, lines 27-29); and

processing said image data using said flicker function so as to remove image artifacts from said image (e.g., column 5, lines 33-35 and 41-67).

In regards to claim 2 Iwakawa discloses the method according to claim 1, wherein said image data comprises an image data array comprised of a plurality of rows of image data, and wherein said processing step comprises dividing said image data by said flicker function on a row-by-row basis (e.g., Examiner notes that the scene is scanned by the one-dimensional image sensor so as to generate two-dimensional image data wherein each row is corrected by dividing the image signal by the flicker function; column 5, lines 14-19 and 41-67).

In regards to claims 7 and 8 see column 4, lines 19-22.

In regards to claim 11 see Examiner's notes on the rejection of claims 1 and 7.

In regards to claims 17, 18, 20-22, and 26 see Examiner's notes on the rejections above.

With regards to claim 21 Examiner notes that the flicker function is determined based on an *a priori* flicker model as described on column 4, lines 23-67.

Claims 1, 7, 8, 11, 12, 17, 20, 21, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by (USPN 6,710,818 to Kasahara et al.).

In regards to claim 11 Kasahara discloses a method for removing image artifacts from an image of a scene illuminated by a periodically varying light source, said image represented by an image data array comprising a plurality of rows of image data, the method comprising:

determining a flicker function that models light emission of the periodically varying light source (e.g., column 8, line 28 – column 9, line 10), and

processing said image data using said flicker function so as to remove said image artifacts from said image (e.g., column 15, lines 48-51; column 16, lines 5-13).

In regards to claim 12 Kasahara discloses the method according to claim 11, wherein said flicker function is a function of flicker amplitude, flicker frequency and flicker phase of the periodically varying light source (e.g., as shown in Fig. 4A the flicker is a function of amplitude, frequency, and phase based on the varying light source).

In regards to claims 1, 7, 8, 17, 20, 21, and 26 see Examiner's notes on the rejection of claims 11 and 12 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 6,208,433 to Iwakawa et al.) in view of (Applicant's Admitted Prior Art, herein AAPA).

In regards to claim 10 Iwakawa does not disclose that the image data is collected from a CMOS image sensor utilizing a rolling shutter to provide exposure control. Examiner notes the

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specification on page 2, lines 7-12 wherein AAPA discloses that it is known to utilize a CMOS image sensor with a rolling shutter to provide exposure control. AAPA further discloses on page 3, lines 1-7 that in using a rolling shutter, since each row of image data is produced at a different time, under a varying light source flicker will be produced. Examiner notes that scanning a scene using a linear image sensor is functionally equivalent to using an image sensor with a rolling reset, since each row of image data is produced at a different time and the scene is sequentially scanned. Examiner notes that one skilled in the art would clearly recognize that replacing the moving mirror and linear image sensor with a CMOS image sensor utilizing a rolling reset would reduce the number of mechanical parts and further would enable a reduction in the frame period for scanning the scene since multiple lines are being exposed in parallel using a rolling reset. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have replaced Iwakawa's rotating mirror and linear image sensor with a CMOS image sensor with a rolling shutter to provide exposure control in order to reduce the number of mechanical parts and further enable a reduction in the frame period for scanning the scene as would be recognized by one skilled in the art.

In regards to claim 16 see Examiner's notes on the rejections above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 571-272-7364 or by fax at 571-273-7364. The examiner can normally be reached on Monday thru Friday 8:30am to 4:30 pm.

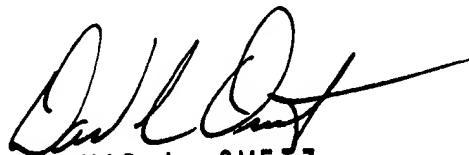
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached at 571-272-7593. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian C Genco
Examiner
Art Unit 2615

June 9, 2005


DAVID L. OMETZ
PRIMARY EXAMINER